Abstract

A system and method for suppressing the formation of gaseous inclusions in glass sheets and the resulting glass sheets are described herein. The system includes a melting, fining, delivery, mixing or forming vessel that has a refractory metal component (e.g., platinum component) which has an inner wall that contacts molten glass and an outer wall coated with an oxygen ion transportable material (e.g., zirconia) which is coated with a conductive electrode. The system also includes a DC power source that supplies DC power across the oxygen ion transportable material which causes oxygen ions to migrate from the refractory metal component to the conductive electrode and enables one to control the partial pressure of oxygen around an exterior of the vessel which helps one to effectively prevent hydrogen permeation from the molten glass in order to suppress the formation of undesirable gaseous inclusions and surface blisters within the glass sheet. The present invention also helps one to effectively reduce the oxidation of external, non-glass contact surfaces of the refractory metal component.